

Appl. No. 10/643,435  
Docket No. H1799-00222  
Response to Official Action of April 5, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) In a heat pipe ~~an apparatus~~ including a magnesium alloy vessel substantially free of aluminum and zinc, said magnesium alloy vessel having a hollow interior cavity at least partially covered by a capillary wick structure, and containing a working fluid, the improvement comprising: forming a stable, protective layer on the inside wall of said magnesium alloy vessel, said protective layer establishing compatibility with said working fluid and preventing base metal corrosion by said working fluid at an interface between said capillary wick structure and said base metal, wherein said magnesium alloy vessel comprises magnesium in combination with an alloyed and/or dispersion strengthening, gettering metal.

2. (Currently Amended) The heat pipe apparatus as recited in claim 1 wherein said stable protective layer is an oxide or nitride protective layer.

3. (Currently Amended) The heat pipe ~~apparatus~~ as recited in claim 1 wherein said vessel is a heat pipe and/or a pumped-loop system.

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4. (Currently Amended) The heat pipe apparatus as recited in claim 1 wherein said gettering metal comprises from about 0.1 - 5 wt % of zirconium.

5. (Currently Amended) The heat pipe apparatus as recited in claim 1 wherein said working fluid is ammonia.

6. (Currently Amended) The heat pipe apparatus as recited in claim 1 wherein said working fluid is water.

7. (Currently Amended) The heat pipe apparatus as recited in claim 1 wherein said gettering metal is selected from the group consisting of zirconium, titanium, hafnium and yttrium.

8. (Currently Amended) The heat pipe apparatus as recited in claim 1 wherein said gettering metal comprises about 0.6 wt % zirconium alloy.

9. (Cancelled)

10. (Currently Amended) In a heat pipe apparatus including a magnesium alloy vessel substantially free of aluminum and zinc, said magnesium alloy vessel defining having a hollow interior cavity having a wall at least partially

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covered by a capillary wick structure, and containing a working fluid, the improvement comprising: forming a stable, protective layer on said ~~the inside~~ wall of said magnesium alloy vessel, said protective layer establishing compatibility with said working fluid and preventing base metal corrosion by said working fluid at an interface between said wick structure and said base metal, wherein said magnesium alloy vessel comprises magnesium in combination with an alloyed and/or dispersion strengthening, gettering metal.

11. (Cancelled)

12. (Currently Amended) The heat pipe apparatus as recited in claim 10 ~~[[11]]~~ wherein said gettering metal is selected from the group consisting of zirconium, titanium, hafnium and yttrium.

13. (Currently Amended) The heat pipe apparatus as recited in claim 10 ~~[[11]]~~ wherein said gettering metal comprises about ~~[[0.6]]~~ 1.0 wt % zirconium alloy.

14. – 16. (Cancelled)